

# ABSTRACT OF THE DISCLOSURE

It is an object of one of the inventions to acquire a radiation image in which a stripe pattern originating from a scattered ray removing grid is less apt to interfere with observation. An image acquisition apparatus of one of the inventions includes a sensor for spatially sampling a radiation transmission distribution of an object to be imaged at a spatial sampling interval and acquiring an image of the object, and a scattered ray removing grid for removing scattered rays from the object, wherein an interval of elements of the scattered ray removing grid is set such that a spatial frequency of a stripe pattern, in the image, which originates from the scattered ray removing grid becomes not greater than 40% of a sampling frequency that is a reciprocal of the spatial sampling interval.